

# UNITED STATES PATENT AND TRADEMARK OFFICE



UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO
10/082,982	02/25/2002	Chaing Chen		1878
7590 03/07/2006			EXAMINER	
CHAING CHEN			PATEL, NIRAV B	
8778 BOULDER RIDGE RD LAUREL, MD 20723-5901			ART UNIT	PAPER NUMBER
			2135	
			DATE MAILED: 03/07/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)				
	10/082,982	CHEN ET AL.				
Office Action Summary	Examiner	Art Unit				
	Nirav Patel	2135				
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply						
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA  - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period w  - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be time will apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE!	I.  lely filed  the mailing date of this communication.  D (35 U.S.C. § 133).				
Status						
<ol> <li>Responsive to communication(s) filed on 16 December 2005 (Amendment).</li> <li>This action is FINAL. 2b) This action is non-final.</li> <li>Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.</li> </ol>						
Disposition of Claims						
4) Claim(s) 1-8,10-12 and 14-20 is/are pending in 4a) Of the above claim(s) is/are withdraw 5) Claim(s) is/are allowed. 6) Claim(s) 1-8, 10-12 and 14-20 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or	vn from consideration.					
Application Papers						
9) The specification is objected to by the Examine 10) The drawing(s) filed on is/are: a) access Applicant may not request that any objection to the of Replacement drawing sheet(s) including the correct 11) The oath or declaration is objected to by the Ex	epted or b) objected to by the Eddrawing(s) be held in abeyance. See ion is required if the drawing(s) is obj	e 37 CFR 1.85(a). ected to. See 37 CFR 1.121(d).				
Priority under 35 U.S.C. § 119		•				
<ul> <li>12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).</li> <li>a) All b) Some * c) None of: <ol> <li>Certified copies of the priority documents have been received.</li> <li>Certified copies of the priority documents have been received in Application No.</li> <li>Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).</li> </ol> </li> <li>* See the attached detailed Office action for a list of the certified copies not received.</li> </ul>						
Attachment(s)	_					
<ol> <li>Notice of References Cited (PTO-892)</li> <li>Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)</li> <li>Paper No(s)/Mail Date</li> </ol>	4)  Interview Summary Paper No(s)/Mail Da 5)  Notice of Informal P 6)  Other:					

Art Unit: 2135

#### DETAILED ACTION

Page 2

1. Applicant's amendment filed on December 16, 2005 has been entered. Claims 1-8, 10-12, 14-20 are pending. Claims 9 and 13 are cancelled by the applicant. Claims 1, 6, 7, 8, 10, 11, 17-20 are also previously amended by the applicant and claim 7 is currently amended by the applicant.

### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 2. Claims 1, 6-8, 10-12, 14-19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martherus et al (US Pub No. 2002/0112155) and in view of Guski et al (US Patent No. 5,592,553).

#### As per claim 1, Martherus teaches:

authentication authority means to serve as a Web services powerhouse to authenticate user identity [Fig. 1 component 34 paragraph 0083 lines 3-4].

gateway authority means to serve as a gateway to delegate (forward) said authentication authority Web services to said authentication authority means [Fig. 1 component 28, paragraph 0189 lines 16-17].

Art Unit: 2135

authentication client means to serve as an *end-user device* [Fig. 1 component 12], authentication handler means to serve as a doorkeeper to protect resources of business entities using said authentication authority Web services [Fig. 1 component 18, paragraph 0076 lines 2-4],

means comprising:

transmitting from said authentication client means to said authentication handler means [Fig. 1 paragraph 0088 lines 10-12],

composing authentication requests by said authentication handler means, and transmitting said authentication requests from said authentication handler means to means selected from the group consisting of said gateway authority means and said authentication authority means [Fig. 1 paragraph 0088 line 12 paragraph 0082], processing said authentication requests by said gateway authority means, and redirecting said authentication requests from said gateway authority means to said authentication authority means [Fig. 1 paragraph 0088 lines 12, 16-17],

generating authentication responses by said authentication authority means, and transmitting said authentication responses back to said authentication handler means [Fig. 1 paragraph 0088 lines 32-34],

whereby a scalable and distributable system to authenticate and validate said user identity will be provided [paragraph 0088 28-32 paragraph 0083 lines 3-4],

whereby the authentication system can be used as an ID verification system for said business entities to verify said user identity over a channel selected from the group

consisting of the Internet, phone and other communication means [Fig. 1 paragraph 0013 lines 11-12].

Martherus teaches technology for authenticating user and user access requests for protected resource. Martherus doesn't expressively mention that end-user device generates the one-time identity codes.

However, Guski teaches that end-user device generates the one-time identity codes [col. 6 lines 35-37 Fig. 3, Fig. 2].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Guski into the teaching of Martherus to generate on-time identity codes. The modification would be obvious because one of ordinary skill in the art would be motivated to prevent unauthorized access to system resources by using the intercepted passwords together with nonsecret information as a user ID [Guski, col. 1 lines 25-28].

As per claim 6, the rejection of claim 1 is incorporated and Martherus teaches:

gateway authority means and said authentication authority means contain means comprising the use of Web services technology to be separated and placed in the Internet accessible environment to become said scalable and distributable system [Fig.

1].

Art Unit: 2135

As per claim 7, the rejection of claim 1 is incorporated and Martherus teaches:

said authentication authority means contain means comprising the use of Web services technology for the Internet user to register and manage said user identity, said authentication client means identity, said user private identity, and associated vital information [Fig. 1 paragraph 0084 lines 1-4, paragraph 0085 lines 1-5, paragraph 0073 lines 1-9].

As per claim 8, the rejection of claim 1 is incorporated. In addition, Martherus teaches the authentication authority [Fig. 1, component 34] that authenticates the user and to establish and/or manage identity profile [paragraph 0085]. Martherus doesn't expressively mention that generating the one-time identity codes.

However, Guski teaches that generating the one-time identity codes [col. 6 lines 42-44 Fig. 3, Fig. 2].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Guski into the teaching of Martherus to generate on-time identity codes. The modification would be obvious because one of ordinary skill in the art would be motivated to prevent unauthorized access to system resources by using the intercepted passwords together with nonsecret information as a user ID [Guski, col. 1 lines 25-28].

Art Unit: 2135

As per claim 10, the rejection of claim 1 is incorporated and Martherus teaches:

said authentication responses generated by said authentication authority means contain means comprising the use of Web services technology to inform said authentication handler said user identity [Fig. 1 paragraph 0088 32-34].

As per claim 11, the rejection of claim 1 is incorporated. Martherus teaches the technology for authenticating user using Web service [Fig. 1]. Martherus doesn't expressively mention the synchronization codes.

However, Guski teaches that generates synchronization codes and conduct synchronization [Fig. 3, col. 3 lines 28-32].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Guski into the teaching of Martherus to generate on-time identity codes. The modification would be obvious because one of ordinary skill in the art would be motivated to prevent unauthorized access to system resources by using the intercepted passwords together with nonsecret information as a user ID [Guski, col. 1 lines 25-28].

As per claim 12, the rejection of claim 11 is incorporated and Guski teaches:

said synchronization codes are arranged to be generated by math functions comprising hash, power and modular math operators, wherein said math functions are arranged to use said user identity, said authentication client identity, and said user private identity as the input information [Fig. 4 col. 7 lines 45-57].

As per claim 14, the rejection of claim 11 is incorporated and Guski teaches:

said authentication authority means and said authentication client means contain means to generate confirmation codes to verify the success of said synchronization [Fig. 3, 4, 6 col. 7 lines 1-3].

As per claim 15, the rejection of claim 1 is incorporated and Guski teaches:

said authentication authority means and said authentication client means contain means to independently generate non-predictable sequence number which is an essential part for producing said one-time identity codes [Fig. 4, 6 col. 9 lines 1-8, 22-27].

As per claim 16, the rejection of claim 15 is incorporated and it encompasses limitations that are similar to limitations of claim 12. Thus, it is rejected with the same rationale applied against claim 12 above.

As per claim 17, the rejection of claims 7, 12 and 16 are incorporated and Martherus teaches user private identity comprises said user's biometric identity and other shared secret information [paragraph 0085, paragraph 0099 lines 11-12]. In

addition, Guski teaches that user identity [col. 6 lines 29-34].

As per claim 18, the rejection of claim 1 is incorporated and Martherus teaches:

said authentication client means contain means comprising the use of Web services technology to be incorporated in a portable, hand-held device [paragraph 0013 lines 10-12].

As per claim 19, the rejection of claim 1 is incorporated and Martherus teaches:

said authentication handler means is arranged to be executed on said business entities' computers which support the use of Web service technology [Fig. 1 component 18].

As per claim 20, the rejection of claim 1 is incorporated and Martherus teaches:

said authentication handler means contain means comprising the use of Web service technology to receive and process said user logon request, compose and submit authentication request to said authentication authority means, process and validate returned authentication response from said authentication authority means, and grant

permission for said user to log onto said business entities' computer [Fig. 1 paragraph 0088].

Page 9

3. Claims 2, 3, 4 and 5 are rejected under 35 USC 103 (a) for being unpatentable over Martherus et al (US Pub No. 2002/0112155) and in view of Guski et al (US Patent No. 5,592,553) and further in view of Brown et al (US Pub No. 2002/0169988, L. Brown).

As per claim 2, the rejection of claim 1 is incorporated and L. Brown teaches:

gateway authority means contain means to interact with other entities of said gateway authority means, and publish said authentication authority Web services to Web service industry's registries [page 2 paragraph 0025, Fig. 1 "Service providers 11 host a network accessible software module. A service provider defines a service description for a Web service and publishes it to a service registry 13"].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of L. Brown into the teaching of Martherus and Guski that use Web services to publish and discover the information. The modification would be obvious because one of ordinary skill in the art would be motivated to use Web services because Web services offers the dual promise of simplicity and pervasiveness. Web services are based on the extensible Markup

Application/Control Number: 10/082,982 Page 10

Art Unit: 2135

Language (XML) standard data format and data exchange mechanisms, which provide both flexibility and platform independence [L. Brown, page 1 paragraph 0002, 0006].

As per claim 3, the rejection of claim 2 is incorporated and further L. Brown teaches:

gateway authority means are arranged to use Web Services Description Language (WSDL) to publish said authentication authority Web services, and use Universal Description, Discovery and Integration (UDDI) standard to discover said authentication authority Web services published by other said gateway authority entities [page 3 paragraph 0032, 0034 "The logical interface and the service implementation are described by the Web Services Description Language (WSDL). WSDL is an XML vocabulary used to automate the details involved in communicating between Web services applications, Referring back to FIG. 1, the service can be publicized by being registered in a standard-format web registry 13. This registry makes it possible for other people or applications to find and use the service. For example, one can publish descriptive information, such as taxonomy, ownership, business name, business type and so on, via a registry that adheres to the Uniform Description, Discovery and Integration (UDDI) specification or into some other XML registry"].

Art Unit: 2135

As per claim 4, the rejection of claim 1 is incorporated. Martherus teaches the Hypertext Transport Protocol (HTTP) and Secure Socket Layer (SSL) [Fig. 1, paragraph 0077, 0082] and further L. Brown teaches:

authentication authority means, said authentication handler means, and said authentication client means are arranged to use Simple Object Access Protocol (SOAP) to communicate, and use Hypertext Transport Protocol (HTTP) packets to transmit data over Secure Socket Layer (SSL) [page 3 paragraph 0043 "The SOAP security extension included with WebSphere Application Server 4.0 is intended to be a security architecture based on the SOAP Security specification, and on widely-accepted security technologies such as secure socket layer (SSL). When using HTTP as the transport mechanism, there are different ways to combine HTTP basic authentication, SSL, and SOAP signatures to handle varying needs of security and authentication"].

As per claim 5, the rejection of claim 4 is incorporated and further L. Brown teaches:

Data contains means to be transmitted by using File Transport Protocol (FTP) and Simple Mail Transport Protocol (SMTP) [page 3 paragraph 0031 "it is possible to send SOAP messages over IBM MQSeries®, FTP or even as mail messages"].

Art Unit: 2135

## Response to Argument

4. Applicant's arguments filed December 16, 2005 have been fully considered but they are not persuasive.

# Applicant argues that:

Martherus's Access System does not function as an authentication authority as described in Claim 1. Claims 6, 7, 20 are unobvious over the referenced prior art.

#### Examiner maintains that:

As per claim 1, Martherus teaches the authentication authority means to serve as Web services powerhouse to authenticate the user identity [Fig. 1, component 34 "Access Server 34 provides authentication, authorization, and auditing (logging) services. It further provides for identity profiles to be used across multiple domains and Web Servers from a single web-based authentication (sign-on). Web Gate 28 acts as an interface between Web Server 18 and Access Server 34. Web Gate 28 intercepts requests from users for resources 22 and 24, and authorizes them via Access Server 34. Access Server 34 is able to provide centralized authentication, authorization, and auditing services for resources hosted on or available to Web Server 18 and other Web Servers" paragraph 0083, lines 3-13, "Web Server 18 is a standard Web Server known in the art and provides an end user with access to various resources via Internet 16" Fig. 1 paragraph 0075 lines 1-3, "Directory Server 36 is in communication with User Manager 38, Access Manager 40, System

Art Unit: 2135

Console 42, and Access Server 34. Access Manager 40 is also in communication with Access Server 34" paragraph 0081 lines 6-10, "Directory Server 36 is an LDAP Directory Server and communicates with other servers/modules using LDAP over SSL. In other embodiments, Directory Server 36 can implement other protocols or can be other types of data repositories" paragraph 0082 lines 4-8]. Thus, Martherus teaches the Access System as described in Claim 1.

As per claim 6, Martherus teaches the gateway authority means (Fig. 1 component 28 "Web gate") and the authentication authority means (Fig. 1 component 34 "Access Server") comprising the use of Web services technology to be separated and placed in the Internet accessible environment to become said scalable and distributable system [Fig. 1, paragraph 0080 "FIG. 1 shows Web Server 18 including Web Gate 28, which is a software module. In one embodiment, Web Gate 28 is a plug-in to Web Server 18. Web Gate 28 communicates with Access Server 34", paragraph 0082 lines 1-3]. Thus, Martherus teaches the claimed limitation.

Martherus teaches the amended claim 7 (claim 7 is currently amended by applicant to include "for the Internet user" for clarity, page 18) as "the authentication authority means contain means comprising the use of Web services technology to register and manage the user identity...." [Fig. 1, "FIG. 1 depicts an Access System which provides identity management and access management for a network. In general, an Access System manages access to resources available to a network. The identity management portion of the Access System (hereinafter "the Identity Management System") manages end user identity profiles, while the access management

Art Unit: 2135

portion of the Access System (hereinafter "the Access Management System") provides security for resources across one or more web servers paragraph" paragraph 0073 lines 1-9, paragraph 0083 lines 1-7 "The Access Management System includes Access Server 34, Web Gate 28, Web Gate 30 (if enabled), and Access Manager 40. Access Server 34 provides authentication, authorization, and auditing (logging) services. It further provides for identity profiles to be used across multiple domains and Web Servers from a single web-based authentication (sign-on)" paragraph 0085 lines 3-10]. Thus, Martherus teaches the claimed limitation.

As per claim 20, Martherus teaches that the authentication handler means [Fig. 1 "Web server"] contain means comprising the use of Web services technology to receive and process said user logon request [Fig. 1, paragraph 0088 lines 9-12 "An end user enters a URL or an identification of a requested resource residing in a protected policy domain. The user's browser sends the URL as part of an HTTP request to Web Server 18"], compose and submit authority means, process and validate returned authentication response from said authentication authority means (Fig. 1 "Access Server") [Fig. 1, paragraph 0088 lines 15-19 "The received log-on information is then passed back to Web Server 18 and on to Web Gate 28. Web Gate 28 in turn makes an authentication request to Access Server 34, which determines whether the user's supplied log-on information is authentic or not"], and grant permission for said user to log onto said business entities' computer [Fig. 1 paragraph 0088 lines 33-34]. Therefor, the rejection to claim 20 is proper and is maintained.

## Applicant argues that:

The combination of Martherus and Guski's teaching will produce a system that is inoperative for authenticating a user with time identity codes (i.e. one-time identity codes) as describe in claim 1. Therefore, it would not have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the reaching of Guski into the teaching of Martherus to generate the one-time identity codes. The referenced art (Guski) does not contain any suggestion that the computation of the confirmation code could meet the requirement as described in claim 14. The referenced art (Guski) does not contain any suggestion that the computation of the one-time identity code could meet the requirement as described in claim 15.

#### **Examiner maintains that:**

Martherus teaches technology for authenticating user (utilize log on information e.g. password, identity code) for a plurality of domains in a network based system [paragraph 0011 lines 2-3, Fig. 1] and providing security for resources across one or more web servers [paragraph 0073 lines 7-9]. Guski teaches the system for authenticating a user to an authenticating node by a communication channel, using one-time passwords [col. 1 lines 11-14, Fig. 1, 3]. Therefor, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the reaching of Guski into the teaching of Martherus to generate/utilize the one-time passwords (i.e. one-time identity codes) for gaining access to the resources. The modification would be obvious because one of ordinary skill in the art would be

Art Unit: 2135

motivated to prevent the unauthorized access to resources [Guski, col. 1 lines 25-28]. Furthermore, the examiner recognizes that obviousness can only be established by combining or modifying the teaching of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to on of ordinary skill in the art. See *In re Fine*, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ 2<sup>nd</sup> 1941 (Fed. Cir 1992). In this case, the combination of Martherus and Guski teach the claimed subject matter and the combination is sufficient.

For the above reasons, it is believed that the rejections should be sustained.

As per claim 14, Guski teaches the authentication authority means and the authentication client means contain means to generate confirmation codes to verify the success of said synchronization [Fig. 3, 4, 6 col. 6 lines 61-65 "password evaluator 312 uses these quantities to regenerate the original time/date 308, which is compared with the reference time date 316(i.e. synchronization)" col. 7 lines 1-3 "the password evaluator sends a message (i.e. confirmation codes) 322 to the requesting node 102"]. Thus, Guski teaches the claimed limitation.

As per claim 15, Guski teaches that the authentication authority means and the authentication client means contain means to independently generate no-predictable sequence number which is an essential part for producing the one-time identity codes [Fig. 4, 6 col. 9 lines 1-8, 22-27 "the AP values (as well as the values of the corresponding passwords PW) for successive time values T are highly random in

Art Unit: 2135

appearance; to a person without the key K, knowledge of the AP or password value for one time period provides no useful information about the value for another time period, even if it is the very next period", col. 7 lines 45-49 "FIGS. 4 and 5 show the procedure used by the password generator 300 (FIG. 3) to generate a one-time password 310 (i.e. one-time identity code) as a function of a secret quantity (the host signon key 306)(i.e. non-predictable sequence number), nonsecret information 302 and 304 identifying the user and the host application, and time/date information 308"]. Therefor, the rejection to claim 15 is proper and is maintained.

### Applicant argues that:

The combination of Martherus, Guski and L. Brown's teaching will not produce a system that is operative for authenticating a user with on-time identity codes".

#### **Examiner maintains that:**

Martherus teaches technology for authenticating user (utilize log on information e.g. password, identity code) for a plurality of domains in a network based system [paragraph 0011 lines 2-3, Fig. 1] and providing security for resources across one or more web servers [paragraph 0073 lines 7-9]. Further, Martherus teaches the Web services technology [Fig. 1, Web server, Internet, URL, various protocols (LDAP, FTP, HTTP, TCP/IP), programs (e.g. Java, C++, EJB)]. Guski teaches the system for authenticating a user to an authenticating node by a communication channel, using one-

Art Unit: 2135

time passwords [col. 1 lines 11-14, Fig. 1, 3]. L. Brown teaches the Web service technology [Fig. 6], which utilizes to publish the Web services [paragraph 0025, line 4-6]. In this case, the combination of Martherus, Guski and L. Brown teach the claimed subject matter and the combination is sufficient.

Page 18

For the above reasons, it is believed that the rejections should be sustained.

# Conclusion

5. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nirav Patel whose telephone number is 571-272-5936. The examiner can normally be reached on 8 am - 4:30 pm (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2135

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**NBP** 

2/24/06

HOSUK SONG PRIMARY EXAMINER

Page 20